Critique of a Nurse Driven Mobility Study

Heather Nowak, Wendy Szymoniak, Sueann Unger, Sofia Warren

Ferris State University
Abstract

This is a critical appraisal of the article *Impact of a Nurse-Driven Mobility Protocol on Functional Decline in Hospitalized Older Adults*. Evidence based research is necessary for initiating new protocols to improve patient outcomes. In order to deem a study valid it must be critically appraised. By looking deeper into an article such as this one, one can gather whether the study has internal or external validity or any significant limitations. This article uses the guidelines for appraisal as outlined in the Burns and Grove Text *Understanding Nursing Research: Building an Evidence-Based Practice*.

*Key words:* mobility, critique, older adults
Critique of Impact of a Nurse-Driven Mobility Protocol on Functional Decline in Hospitalized Older Adults

The primary purpose of this paper is to critique the research process as well as critically appraise the research study data provided in the paper titled Impact of a Nurse-Driven Mobility Protocol on Functional Decline in Hospitalized Older Adults (Padula et al., 2009). The primary concern of this group is to critique the research process of the researchers and determine the internal and external validity of the research data presented. Our text, Understanding Nursing Research, was used to establish criteria for critique and critical appraisal (Burns & Grove, 2011). This paper provides a systematic review of the various components of a research critique of research data. Reliability and credibility are questionable as the study has clear limitations in that the study has no clear theoretical framework, has potential bias, and poses threats to internal and external validity.

“Nursing research is defined as the systematic, objective process of analyzing phenomena of importance to nursing” (Nieswiadomy, 2008, p. 5). Research is an attempt to measure and understand the cause and effect relationship of data, data which is subject to standards for reliability and validity. Research standards are a guide to establishing criteria that researchers use to produce data that is reliable, reproducible and valid. If a study does not meet established research criteria, a study and its findings should be questioned. As nurses, the ability to critique and critically appraise a research report and its data increases knowledge, provides a strong basis for evidence based practice and contributes to the development of new research studies (Burns & Grove, 2011).
Purpose and Problem

Evidence

The purpose of the study was stated clearly within the article “to determine the impact of a nurse-driven mobility protocol on functional decline in hospitalized older adults” (Padula et al., 2009, p.326). The study explains that it would determine the outcome of the protocol on maintaining or improving functional status and whether the said protocol would have an impact on the length of stay (LOS) (Padula et al., p.326).

Support

A statement of the problem should include where the deficits are occurring within our current knowledge base and include the significance of a necessary change in practice (Burns & Grove, 2011, p 465). A problem statement is either declarative or interrogative (Nieswiadomy, n.d.). According to Burns & Grove (2011) evidence-based nursing is developed from a knowledge deficiency. Within a study the purpose is “a clear, concise statement of the specific goal or focus of a study” (Burns & Grove, p. 146). Furthermore, a problem statement is one that should be significant to nursing and be ethical as well (Nieswiadomy).

Analysis

The purpose of the study is provided to the reader in the article in the introduction and again in the study purpose. This was written in a declarative manner. The population group included in the study is well defined as the older hospitalized adult patient; the nurse-driven mobility protocol is well defined as the variable. The purpose of the study is clearly significant to nursing. The purpose and problem within the study is properly written and contains adequate information for the reader to discern as such.
Review of Literature

Evidence

The literature review of this study presented multiple scholarly sources. Existing literature supports the basis of functional decline in hospitalized patients, noting that this decline actually begins pre-admission (Padula et al., 2009). The study supported existing literature in its findings that early and frequent ambulation contributed to the maintenance of functional mobility and decreased length of stay (Padula et al.). Included were existing measurement tools and trials in which the researchers were able to derive information and examine results. One of the tools was found to be questionable, in that it did not detect differences in functional level which were detected by another instrument (Padula et al.).

Limitations of the study were identified due to the control group demographics. Recognition that the control groups functional status due to disease and state of acuity could have skewed the end results, increasing length of stay (LOS), and later mobility (Padula et al., 2009). Another consideration identified in the study is the presence, on a given unit, of an advanced practice nurse on patient outcomes.

Support

Research is built on existing knowledge and according to Nieswiadomy; the best way to obtain this knowledge is through published journals, especially nursing journals. When considering the credibility of a study the reader must be able to identify the qualifications of the researcher (Nieswiadomy, n.d.). According to Nieswiadomy, these qualifications are generally found in a biographical section of the article; which provides names of the authors of the research article, author affiliations as well as funding organizations. The study is found to be driven by and supported by scholarly sources.
Literature may include both primary and secondary sources. Primary sources are those that are written and published by the original author, whereas secondary sources are those that are a report of a research article written by someone other than the persons conducting the research (Nieswiadomy, n.d.). According to Nieswiadomy, if the source is published in a major journal it is most probably a primary source. The sources cited in this study are derived from scholarly articles in various medical journals.

Analysis

Nieswiadomy states that “recommendations for future study are usually found in the last paragraph of a research article”. This study concludes that its research findings on mobility supports the findings of existing research literature, in that decline actually begins in the period prior to admission and suggest that early and ongoing ambulation may maintain functional status and decrease length of stay; suggesting that ambulation should be considered a part of quality nursing care (Padula et al., 2009). There are limitations discussed earlier in the article that suggest future revision of the study, with the narrowing or consideration of patient co-morbidity's and functional status.

The research article appears to be well written, as it is very concise and easy to follow. The sources cited are in the reference list and are without inaccuracies. The sources are current and classic publications. Many of the tools cited would be considered classic sources, but proved to be integral in the study. Review of the research articles that were used in this study all demonstrated support of the hypothesis; none were found to be in opposition of the concepts detailed in the article. The review of literature is incorporated into the entire article, referencing and citing existing research and its findings. Although reference was made to the literature
referenced, a clear critique of the material was not evident. References were paraphrased and cited appropriately throughout the study.

As previously mentioned the sources appear to be scholarly and as they are primarily printed in medical journals they are most likely primary sources, but this is not clear. Furthermore, credibility would be of concern as the authors fail to critique the research literature used to substantiate their own research findings leaving the reader unable to determine the quality of the information provided. Without the ability to determine the relevance of research data the review of literature proves to be weak.

**Theoretical/Conceptual Model**

**Evidence**

This study does not reveal a specific theoretical or conceptual model. The goal of the study was to “determine the impact of a mobility protocol on functional decline in hospitalized patients” (Padula et al., 2009). More specifically, the study purpose “was to determine the impact of a nurse-driven mobility protocol on functional decline in hospitalized older adults” (Padula et al.). The independent variable was the mobility protocol and dependent variables were the functional status and length of stay. There was no link between the variables and a theoretical or conceptual model since there was no evidence of either in the study.

The hypotheses are clearly stated in the study, “(1) older adults who participate in a mobility protocol will maintain or improve functional status from admission to discharge and (2) older adults who participate in a mobility protocol will have a reduced LOS” (Padula et al., 2009).
Support

A study framework is necessary to understand how the researcher planned the study and how the theory can be tested in a study (Burns & Grove, 2011). The ability to understand the theory of a study helps the reader decide whether the findings are appropriate to use in their practice (Burns & Grove, 2011). As this study was weak in presenting theoretical and conceptual models the application to practice is also weak. “A clearly expressed framework is one indication of a well-developed quantitative study” (Burns & Grove, 2011).

The researchers had compiled studies that proved early mobility of hospitalized elderly patients was beneficial to the patient. Their assumption was this would hold true for their study also. The nurse-driven mobility protocol was initiated to see if functional status was improved and reduced length of stay would be affected by specific interventions. Concepts are core in a study to be able to identify the theory. Concepts need to be included in the study framework since they represent the basic element of a theory. Concepts that are clearly identified and defined provide a strong basis for the framework (Burns & Grove, 2011).

Analysis

In critiquing this study with the Burns & Grove textbook and Nieswiadomy’s guidelines the study is lacking in a theoretical and conceptual framework. This makes the study weak and difficult to apply in the practice setting. Since the study is not placed in context with a clear framework it is difficult to apply the findings to anything other than nursing knowledge (Burns & Grove, 2011).
Hypothesis and Research Questions

Evidence

Two hypotheses were stated in the article and were included in the purpose section. The first hypothesis of the researcher was that older adults who participate in a mobility protocol will maintain or improve functional status from admission to discharge. The second hypothesis of the researchers was that older adults who participate in a mobility protocol will have a reduced length of stay (LOS) (Padula et al., 2009). The researcher hoped to prove the hypotheses by utilizing the findings of the study to define the importance of early ambulation in older adults.

Support

A hypothesis is formulated by the researcher and indicates the expected outcome of the completed study. Nieswiadomy states that every study should have at least one hypothesis, and that one group should perform better than another. The researcher should state the hypothesis of the article clearly. The hypothesis statement should include a statement of the expected outcome of the study. A hypothesis should have the ability to be testable if used in practice; it should be measurable and the results should be able to be reproduced. The hypothesis should be described as one of four types; 1) associative verses causal, 2) simple verses complex, 3) nondirectional verses directional, and 4) null verses research. The stated hypothesis should contain the population studied, the variables of the study and reflect the problem statement (Nieswiadomy, 2008).

Analysis

The problem statement of this article is reflected in the hypotheses that are clearly stated by the researcher. The researchers expected outcome of the study was that increased early mobility would increase functional mobility at discharge and reduce length of stay.
The variables in the study are stated within the hypothesis. The independent variable is mobility protocol. One of the dependent variables is functional status. The first hypothesis of the researcher states that the independent variable, mobility protocol; will change the dependent variable of functional status. The second hypothesis of the researcher states that the independent variable, mobility protocol; will change the independent variable of functional status. The hypothesis statements clearly indicate the expected outcomes of the study, and the outcomes are able to be measured. Based on the availability of test groups, the study would be able to be reproduced.

This study is classified as a causal hypothesis. Causal hypotheses indicate a cause and effect relationship between an independent and a dependent variable (Burns & Grove, 2011, p. 170). The researcher has used functional mobility as the modifier to change the outcome of functional status and length of stay.

**Research (Study) Design**

**Evidence**

The research design is identified as a nonequivalent control group design (Padula et al., 2009). The study design as well as the independent and dependent variables are clearly defined. The design is appropriate to test the study hypothesis. The research methods are described in obtaining the sample identified as a convenience sample with further description of the criteria used in the sample selection for eligibility in the research study. The article also identifies the collection period for study data as well as a description of the site and the composition of the nursing staff. According to the research article the “geriatric clinical nurse specialist and the research nurse practiced screening for eligibility and scoring using the scoring instruments and continued until acceptable reliability was achieved” (Padula, et al.).
Support

Research design is the plan for conducting a study, with the purpose being to maximize the ability of the researcher to obtain valid answers to the research questions or hypothesis (Burns & Grove, 2011). According to Nieswiadomy, the reader should be able to determine whether the study was experimental or non-experimental and should clearly define the methods used by the researchers to control extraneous variables.

Elements central to the study design include the presence or absence of a treatment, number of groups in the sample, number and timing for measurements to be performed, method of sampling, time frame for data collection, planned comparisons, and control of extraneous variables. (Burns & Grove, 2011, p 285)

Research design and its limitations or weaknesses are elements which should be clearly identified by the researcher in the Methods section of the article (Nieswiadomy, n.d.).

Analysis

The research design is identified as a nonequivalent control group design or a quasi-experimental study. Quasi-experimental research is a type of quantitative research which explains relationships, examines causality and ascertains why certain events happen (Burns & Grove, 2011). Data on the population, sampling, setting and data collection methods and instruments are clearly outlined in the research article. Limitations to the study are recognized and relevant to the validity of the research study. The research seems to be well planned and implemented otherwise as it clearly demonstrates a relationship between variables and treatment as well as providing a base of evidence for practice.
The validity of the research design is weak as internal and external validity are compromised. The independent variable the “mobility protocol” is not clearly defined in the article. There is no definition of functional status; the groups studied are not equal and therefore difficult to control. There is no clear indicator of how the patients are selected and how they are somehow assigned to two different floors. Internal validity is threatened as there is a lack of control in the study and also due to the lack of clearly defined randomization of the division of the groups. Without control you cannot ensure equal results are defined (Burns & Grove, 2011).

The article makes mention of the patients being provided with an informational letter, but it makes no mention of whether the patients have consented to participate in the study. Another area of concern would be the vulnerability of the subjects selected for the control group in the study.

Sampling and Sampling Methods

Evidence

The study researchers “recruited a convenience sample of 50 adults, 60 years or older, who were admitted with medical diagnoses to 1 of 2 nursing units. Inclusion criteria included a length of stay of 3 or more days and the ability to understand English” (Padula et al., 2009). Other inclusions were not having a physical impairment that would limit mobilization and to have cognitive function to allow participation or a significant other who would assist with participation. Those patients with a Mini-Mental Status Examination score of 24 or more were selected and surgical patients were excluded due to possible mobility issues.

The screening of 453 patient records was completed by the research nurse with 84 patients eligible. Of the 84 patients 34 were withdrawn due to a variety of reasons including transfer off unit, were discharged prior to collecting data or before 3 days, a disqualifying or
condition procedure and personal reasons. “Study data were collected within 48 hours of admission for eligible subjects. Sample size statistics were conducted to determine adequate power and supported a total number equal to 50” (Padula et al., 2009).

**Support**

The researchers used a convenience sample that is a “weak approach” since it cannot control bias and “subjects are included in the study merely because they happen to be in the right place at the right time” (Burns & Grove, 2011, p. 305). According to Burns and Grove this type of sampling is a less expensive method to conduct a study and less time consuming. Biases are not uncommon in this type of study but probably not serious biases per Burns and Grove. The convenience sampling method is common to healthcare since researchers have a limited pool of possible patients who can meet the sample criteria. The target and accessible population is identified and a nonprobability sampling method is used (Nieswiadomy, 2008).

**Analysis**

A nonprobability convenience sampling method is used and appears appropriate for this study but weakness of the sample is noted with the following findings. Demographic characteristics are explained in the sample but the study states limitations included the lower functional level of the control group could have contributed to length of stay and/or later ambulation. Also, acuity and disease burden which were not measured in this study makes a significant impact in the findings. Internal validity is also questionable in this study due to lacking a definition of the control group. When the control group is not defined there is allowance for error in the findings. Since the control group and treatment group were on two different nursing units the internal controls put into question the validity of the results. Another question as to the validity include the treatment group having the unit trained with Geriatric
Friendly Environment through Nursing Evaluation and Specific Interventions for Successful Healing (GENESIS) model of nursing care and the control unit did not have the same type of nursing model.

Sample attrition rate is expressed as 34 from the 84 eligible subjects. The study sample size shows adequate power at 50 to show comparison. The study also refers to a Mini-Mental Status Examination. The cognitive status of the patients included was clearly tested although there is no mention as to the proper training of those performing the Mini-Mental Status Examination and if they were hospital personnel or researchers from the study.

**Data Collection Methods**

**Evidence**

An advanced practice nurse and a research nurse were utilized to obtain data. The advanced practice nurse was trained by a clinical geriatric nurse specialist and the principal investigator. Patients in the study were screened by the research nurse. Researchers obtained information from a convenience sample of adults. The adults were aged 60 years or older and came from one of two nursing units. The screening of eligible study participants was completed by a research nurse. The criteria included a hospitalization stay of three or more days, completion of a Mini-Mental examination, the ability to understand English and with a physical immobilizing impairment. Patients with a surgical diagnosis that would limit mobilization were also included in the group that would be able to participate in the study. The two nursing units that were included in the study had a similar patient makeup and similar nurse staffing scenarios.

**Support**

During the data collection period of a study the focus is to obtain the subjects to be included in the study, to have accurate and consistent data collection, to maintain the study
controls, and to protect the validity of the study (Burns & Grove, 2011). The goal of data collection is to answer the questions of who, when, how, and what. Who will collect the data, when will data be collected, and how will data be collected (Nieswiadomy, 2008). The research report should include an accurate description of how the data was collected for the study. There should also be an assurance of confidentiality and a disclosure of the questions presented to the participants in the study prior to enrollment.

**Analysis**

The data collection methods used in this study were weak. A description of the training of the research nurse is not available. In addition, there is not any information to determine the background of the clinical geriatric nurse specialist and the principal investigator. In other words, there are no criteria that indicate the validity of the data collectors. The reader is not aware of assurance of confidentiality for possible participants, nor is there an example of the questionnaire presented to them for inclusion or exclusion to the study. There may be bias involved when selection of the participants occurred secondary to the exclusion of some surgical diagnosis’ that would have an impact on mobility. The study claims to be appropriate to all levels of care, including ICU; yet the reader is not aware of which surgical interventions were validated for the study.

**Instrument**

**Evidence**

The instruments used for the purposes of this study were identified as the Barthel Index (BI), the Get Up and Go Test, Frail Elderly Functional assessment and a Mini-Mental State examination (Padula et al., 2009). Also used were demographic data; data related to out-of-bed activity, retrieved from patients chart as well as nursing staff and patients. The BI was described
as a subjective measure which measures one’s ability to perform activities of daily living (ADL), (Padula et al.). According to Padula et al., the measure incorporated 10 ratable items, which were given a 5-point rating scale, which gave the tool sensitivity in detecting change. Thus, the researchers were able to estimate a quantitative estimate of the level of independence of an individual. The Get Up and Go test was described as an objective measure of an individual’s ability to get up from an armchair, ambulate, turn around, return to chair and sit down (Padula et al.). According to Padula et al., the BI and the Get Up and Go test were shown to correlate.

The instruments were developed until acceptably reliable data was achieved and measured. Reference to the validity of the measures was made related to each tool. The correlation of the tools and the data were articulated.

Support

“The instrument facilitates the observation and the measurement of the variables of interest” (Nieswiadomy, 2008, p. 215). According to Nieswiadomy, the instruments used to collect data should be fully described in the study. Statistical data related to the reliability and validity of these instruments should also be included when previously used as research studies (Nieswiadomy, n.d.). “Great care should be taken to select the most appropriate instrument or instruments” (Nieswiadomy, p.215).

Reliability concerns an instruments stability and consistency (Nieswiadomy, 2008, p.215). Reliability is not a constant and should be continually reevaluated (Nieswiadomy, p.215). According to Burns and Grove, researchers should provide reliability testing on each instrument used in a study prior to performing other statistical analysis (Burns & Grove, 2011, p. 333). According to Nieswiadomy, characteristics of reliability testing include dependability, precision, stability, consistency and reproducibility; all of which strengthen the internal validity
of the study. Validity is the ability of the instrument to gather the information that it is intended to gather, accordingly the greater the validity of the instrument the greater confidence one can have in the data obtained with the instrument (Nieswiadomy, p.221).

**Analysis**

The instruments used in this study were flawed. The instruments are described, cited and reference was made to their validity, but the data lacked as statistics related to the validity of the instruments were missing. The study states that the data is reliable and valid but fails to provide any data affirming their claims: no mention of reliability testing was made.

Researcher’s use of demographic data was considered nominal-scale measurement, and considered weak as a measurement category (Burns & Grove, 2011, p. 329). Ordinal-scale measurement was demonstrated in the use of the BI and the Get Up and Go Test as data from both was ranked on a scale. The Mini-Mental State was the highest level of measurement achieved in this study. This interval-scale measurement was flawed as the data was obtained from the patients’ significant others’ perception of the patients’ mental status, and posed a threat to the studies internal validity. The study had no data that would have been subject to the highest form of measurement, ratio-scale measurement. Perhaps inclusion of this type of measurement tool would have provided stronger data and identified a stronger correlation between mobility and its impact on functionality of hospitalized older adults.

**Measurement**

**Evidence**

A convenience sample was used of 60 years and older adults admitted with a medical condition to two nursing units. The measurement of a length of stay of three or more days was used, the ability to speak English and mobilize as well as intact cognition or the presence of a
significant other who could assist. Cognitive status was measured by a Mini-Mental Status Examination.

Functional status was measured with the modified Barthel Index (BI) and the Up and Go test. The BI is subjective and measures ability to perform activities of daily living. “The modified version used retained the original 10 items but included a 5-point rating scale for each item to improve sensitivity to detecting change” (Padula et al., 2009). Also measured were the level of dependence from 0-100, the “self-perceived level of function at admission, two weeks prior to admission and at discharge” (Padula et al.). “Correlations of the BI and Frail Elderly Functional Assessment were reported at 0.91, interrater agreement of $r=0.793$ was reported for the overall BI score” (Padula et al.).

“The Get Up and Go test is an objective assessment that measures the research subjects’ ability to stand from an armchair, walk 3 m, turn around, return, and sit down in the chair again” (Padula et al., 2009). The reliability measure of this test correlates with the BI at $r=-0.78$. The sit to stand component was measured on a 1-4 scale at admission and discharge. Per the researchers, “the evidence supporting the validity of the sit-to-stand measure is reported” (Padula et al.).

Support

According to Burns & Grove, measurement is very critical to the validity of a study. Research has to be measured to produce the most accurate of findings. “Measurement theory guides the development and use of measurement methods in research” (Burns & Grove, 2011, p.328). The rules of measurement include directness of measurement, levels of measurement, measurement error, reliability and validity.
Direct measures identify values given to concrete objects. Indirect measures are not concrete and can be an abstract concept. This usually includes multiple measurements to give meaning to the information. Levels of measurement were developed to be able to assign “numbers to objects so that a hierarchy in measurement was established” (Burns & Grove, 2011, p.329). Levels start with nominal-scale measurement, which is the lowest level. These are not orderable but must be exclusive and exhaustive. Ordinal-scale measurement allows categories to be ranked but will have unequal distances. Interval-scale measurements “have equal numerical distances between intervals” (Burns & Grove, p.330). The highest form of measurement is the ratio-scale measurement, which meets all the requirements of the other forms of measurement.

“Measurement error is the difference between the true measure and what is actually measured” (Burns & Grove, 2011, p.331). This can include both direct methods and indirect methods and be random or systematic. Random error is when the measurement and the true value are without pattern or direction. Systematic error refers to a variation in values from the calculated error and travelling in the same direction.

Reliability of measurement includes the consistency of the measurement and if it produces similar scores with repeat testing. Validity is the measurement of an instrument and “how well the instrument reflects the abstract concept being examined” (Burns & Grove, 2011, p.334).

Analysis

In general, the study measurements were weak. A scale measurement was used for the functional status that included ten items, which appeared to be a strong component of the study. Weak measurements included the lower functioning level of the control group and “acuity and disease burden” (Padula et al., 2009) which were not measured. Another weakness was the Up
and Go test which “did not detect differences in functional level that were identified by the BI” (Padula et al.). The observational measurement of the staff is not fully recorded other than that the data was derived from “chart review and corroborated by discussion with nursing staff and individual patients” (Padula et al.). With measurement reliability in question for this study it cannot provide trustworthy information.

**Data Analysis (Descriptive and Inferential Statistics)**

**Evidence**

SigmaStat is a statistical program used in this study. The SigmaStat program guides the user to correct conclusion and ensure there are no statistical mistakes. “Sample size statistics were calculated prior to data collection to ensure adequate power to detect differences between the groups” (Padula et al., 2009). Descriptive and inferential statistics were completed within the study. “Descriptive statistics were completed for study variables and comparisons between the groups on baseline characteristics were examined” (Padula et al.). “Differences between the treatment and control group on the dependent variables were calculated using inferential statistics” (Padula et al.).

**Support**

In any study in which the data are numerical, data analysis begins with descriptive statistics” (Burns & Grove, 2011, p.383). Understanding statistics within a study is imperative for the reader and person critiquing the study. “An inference is made from a specific case and extended to a general truth, from a part to the whole, from the concrete to the abstract, and from the known to the unknown” (Burns & Grove, p.378).
Analysis

The data analysis in this study was extremely weak. There was little information given within the study about the program that was used, SigmaStat. The article stated that there were calculations using inferential statistics but lacks details. There were also descriptive statistics and comparisons made but is not any data within the article that tells the reader the results. There is no reference to SigmaStat to that the reader can validate this tool as effective. There is no concrete data given in the article from the program to validate the outcome or results.

Study Conclusions, Implications and Recommendations

Evidence

The purpose of the study was to determine whether a nurse-driven mobility protocol impacted the functional status and LOS of older adults (Padula et al., 2009). The study concludes that functional decline occurs during acute stays of hospitalized older adults and concurs with existing literature, in that it recognizes functional declines start prior to hospitalization. According to Padula et al., the findings indicate that early, ongoing ambulation during hospitalization, is an important contributor in maintaining functional status and decreasing LOS. The study recommends that early, ongoing ambulation be a priority for quality nursing care.

Support

According to Nieswiadomy, study findings should be compared with related research findings in research literature as well as study framework. The implications of the study are the researchers’ attempt at answering what comes next, how should the data be used or how does the data impact nursing (Nieswiadomy, n.d.). Recommendations should be proposed for future research and account for limitations (Burns & Grove, 2011).
Analysis

The study is not a bad study, it just seems to be lacking in key components. The study findings are lacking, as there are significant threats to internal and external validity. Of concern would be that the findings are based on a convenience sample and lack randomization. A larger sample size may have decreased study bias; perhaps with a larger study sample a greater representation of the true population can be drawn. The groups studied were not equal and therefore difficult to control. This lack of control compromised the entire study. Lack of a defined framework and researcher’s critique of research literature also compromise the findings and potential implications of the study. The recommendations by the researchers are for more research.

Conclusion

Limitations of the study were numerous. Mainly there are threats to internal and external validity. The study lacked control, lack of control leads to unreliable research. Greater control over the selection of the subjects would have significantly improved internal validity. Control in the selection process and a larger sample size would have eliminated selection bias. According to Burns & Grove, without control you cannot ensure equal results.

The researchers needed to have a clearly defined theoretical framework. This study lacked a clear study framework and therefore compromised external validity. According to Burns & Grove, without a clear framework, credibility is diminished and application to nursing practice is difficult. The researchers also lacked credibility, as they did not clearly incorporate a critique of the research literature. In order to substantiate their findings, critique of the research
literature would need to be defined so that the reader can determine the quality of the information provided.

This research article, although weak, should not be dismissed. Clearly functional decline of elderly adults is of concern. The research is clear in that data supports early, ongoing ambulation in improving functional status and decreasing length of stay. Inclusion of a study framework as well as improved selection of subjects would have significantly improved the reliability of the research findings.
References


